



Mathematics and CS Seminar

GeomTop Seminar: Irreducible $SL(2, \mathbb{C})$ -representations of integer homology 3-spheres

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Host:

We prove that the splicing of any two non-trivial knots in the 3-sphere admits an irreducible $SU(2)$ -representation of its fundamental group. This uses instanton gauge theory, and in particular a non-vanishing result of Kronheimer-Mrowka and some new results that we establish for holonomy perturbations of the ASD equation. Using a result of Boileau, Rubinstein and Wang (which builds on the geometrization theorem of 3-manifolds), it follows that the fundamental group of any integer homology 3-sphere different from the 3-sphere admits irreducible representations of its fundamental group in $SL(2, \mathbb{C})$. Using work of Kuperberg, we obtain the corollary that 3-sphere recognition is in coNP if the generalized Riemann hypothesis holds.

Wednesday, November 6, 2019 01:00pm - 02:15pm

Mondi Seminar Room 3, Central Building



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station. Please find a schedule of the ISTA Shuttle on our webpage: <https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.